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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,070	03/29/2004	Gustaaf Willem Van Der Feltz	1857.2780000	8087
26111	7590	09/05/2006	EXAMINER	
STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			KIM, PETER B	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/811,070	VAN DER FELTZ ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Peter B. Kim	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Applicant's arguments filed on July 12, 2006 have been fully considered.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 23-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding claim 23, measuring a spatial distribution of the alignment feature at a first region at the measured temperature and determining a dimensional response from differences between a predetermined spatial distribution and the measured spatial distribution seems to be new matter not supported by the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how measuring a spatial distribution of a first region is used to determine a dimensional response.

The remaining claims, not specifically mentioned, are rejected for incorporating the defects from the base claim by dependency.

In view of the issues above, the following art rejections are based on the examiner's best understanding of the claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 9-11, 13-15, and 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Moffatt (2004/0084633).

Moffat discloses a lithographic apparatus and a device manufacturing method comprising an illumination system (102, 104), a patterning system that imparts the beam with a pattern (108), a projection system (110), a temperature measuring system that measure a respective temperature of a plurality of regions of the substrate (para 0043), a calculating system that calculates a dimensional response of the substrate to the respective measured temperature (para 0015) and an adjusting system that adjusts the spatial characteristics of the patterned beam to compensate for the calculated dimensional response (para 0015). Moffatt discloses at least one sensor that measures the temperature of the substrate at each of the plurality of regions (para 0043), and adjusting cross-sectional shape of the beam and the patterned beam to correct the

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image (para 0015 and 0043). Moffatt also discloses the temperature mapping system (para 0043, 0015) and calculating system (computer in para 0043) that develops a model of the dimensional response and the spatial characteristic adjusting system.

Claims 23-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Hada (5,912,096).

Hada discloses a method comprising measuring temperature of a plurality of region of a substrate, measuring a spatial distribution and determining a dimensional response from differences between a predetermined spatial distribution and the measured spatial distribution (col. 3, line 22 – col. 4, line 14).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-8, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moffatt in view of Itoh (6,088,080).

Moffatt discloses the claimed invention as discussed above; however, Moffatt does not disclose sensors distributed across the substrate support. Itoh discloses a temperature sensor (6a), on the substrate support (2). Itoh also discloses the sensor distributed on a sensor support (top surface of the support) located above the substrate support (2). Itoh also discloses the

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support that is displaceable. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the plurality of sensors of Moffatt across the substrate support as taught by Itoh in order to measure the temperature of different regions of the substrate.

Claims 6, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moffatt in view of Whiting (6,377,334).

Moffatt discloses the claimed invention as discussed above; however, Moffatt does not disclose the sensors distributed on a sensor support positioned above the substrate support. Whiting discloses the temperature sensor (22, 24) positioned above the substrate support. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the sensors above the substrate support in order to detect the surface temperature of the substrate in correlation with a particular location relative to the thermal detection array located thereabove as taught by Whiting in col. 4, lines 17-23.

Claims 12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moffatt in view of Ota (2002/0146628).

Moffatt discloses the claimed invention as discussed above; however, Moffatt does not disclose adjusting the size of the beam by a magnification adjustment. Ota discloses in para 0155, adjusting the beam size by adjusting the magnification. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the

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magnification adjustment to the invention of Moffatt in order to compensate for change in the substrate as taught by Ota in para 0155.

***Response to Arguments***

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 8:00 AM - 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Peter B. Kim  
Primary Examiner  
Art Unit 2851

August 26, 2006